

Product description

Impact-modified, glass fiber reinforced injection molding grade for industrial items having very high impact strength and rigidity, used e.g. for automobile airbag housings and half-shells for suitcases.

Physical form and storage

The product is supplied in the form of granules with a bulk density of approx. 0.7 g/cm³. Standard packs are bag and bulk container (octagonal IBC=intermediate bulk container made from corrugated board with a liner bag). Other packaging materials and shipping in road or rail silo wagons are possible by agreement. The containers should only be opened immediately before processing or drying. To ensure that the delivered product absorbs as little moisture as possible, the containers should be stored in dry rooms and always carefully closed again after partial quantities have been withdrawn. In principle, the product can be stored for a long period of time. Containers stored in cold rooms should be equalized to ambient temperature before opening in order to avoid condensation on the granules. Regardless of the storage conditions, the product should be pre-dried according to our recommendations and the machine should preferably be loaded using a closed conveyor system.

Product safety

In case processing is done under conditions as recommended (cf. processing data sheet) melts are thermally stable and do not generate hazards by molecular degradation or the evolution of gases and vapors. Like all thermoplastic polymers the product decomposes on exposure to excessive thermal load, e.g. when it is overheated or as a result of cleaning by burning off. Further information is available from the safety data sheet.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. In order to check the availability of products please contact us or our sales agency.

Processing Data Sheet

	Test method	Unit	Values
Properties			
Polymer abbreviation	-	-	PA6-I GF40
Density	ISO 1183	kg/m ³	1400
Melt volume rate MVR 275 °C/5 kg	ISO 1133	cm ³ /10min	10
Drying			
Moisture, recommended ¹⁾	-	%	0.03 - 0.06
Dryer temperature ²⁾	-	°C	80
Drying time ³⁾	-	h	4
Moisture, max.	-	%	0.15
Injection molding			
Melt temperature range	-	°C	270 - 290
Melt temperature, optimal	-	°C	280
Mold temperature range	-	°C	80 - 90
Mold temperature, optimal	-	°C	80
Residence time, max.	-	min	10
Machine Settings			
Temperature hopper throat	-	°C	80
Cylinder temperature 1 (feed zone)	-	°C	260
Cylinder temperature 2 (compression)	-	°C	270
Cylinder temperature 3 (metering-zone, in front of the screw)	-	°C	280
Cylinder temperature 4 (nozzle)	-	°C	280
Peripheral screw speed	-	m/s	0.3
Shrinkage			
Molding shrinkage (parallel)	ISO 294-4	%	0.30
Molding shrinkage (normal)	ISO 294-4	%	0.65
Processing shrinkage, constrained, longitudinal (TM = 280 °C, TW = 80 °C) ⁴⁾	-	%	0.45

Footnotes

- 1) Excessive drying of the granules may lead to an increase of melt viscosity during processing.
- 2) Dry air dryer; drying time is dependent on the initial moisture content of the granules, drying temperature and the dew point of the dried air.
- 3) In case of improper storage (e.g. open packages) drying time may have to be extended.
- 4) Model housing with central sprue, measures of the base: 107 x 47 x 1.5 mm.

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